Note: In the event of power failure, all serial communication will cease until power is restored.

The Nurse Call and the serial data output share the same female, nine pin, d-type connector (DB9F).

Pin 2: Receive Data (warmer input)
Pin 3: Transmit Data (warmer output)
Pin 5: Gnd (Signal Ground)

Cable requirements

The user interface cable must have capacitance less than 1500 pF. It should be a *shielded cable such as a Belden 9611 with AMP shielding kit 748046-1 and ferrule* 747579-8.

Data transmission

The warmer continuously sends data from the time that it is first powered up. Note that the warmer serial data transmission can be controlled through the serial port. Data output stops when the warmer receives a <cntrl>S (XOFF) and resumes when it receives a <cntrl>Q (XON).

Data format

1 start bit, 7 data bits (ASCII), 1 parity bit (odd), 1 stop bit, 1200 baud, full duplex.

Serial data has the format: start text character, "<stx>"; IWS header, "IW"; software version; data string; checksum characters; carriage return, "<cr>"; line feed, "<lf>"; end of text character, "<etx>". Data elements are separated by spaces, "_". Each String contains 53 characters:

Sample data:

<stx>IW0500_35.52_XX.XX_P_00085_36.50_00001000_E014_11<cr><lf><etx>

Data for discussion (use the following table):

<stx>IWxxxx_pt.pt_xx.xx_m_ppppp_pc.pc_alrmleds_code_ck<cr><lf><etx>

<stx>

Start of text character (ASCII 2) or CTRL B; indicates a string of data will follow.

IWxxxx

IW means the data is from the Infant Warmer; xxxx is the software version in the unit, e.g. 0500 for version 5.00.

pt.pt

This is the patient temperature in degrees centigrade. The patient temperature will always be sent even if it is outside the normal display range. Temperatures less than or equal to 1.00°C indicate an open or a disconnected probe. Any temperature greater than or equal to 50°C is a shorted probe.

xx.xx

Reserved for future use.

m

This is the mode of operation. P means servo control mode. A means manual control mode. Always check the mode of operation before evaluating the patient control temperatures.

ppppp

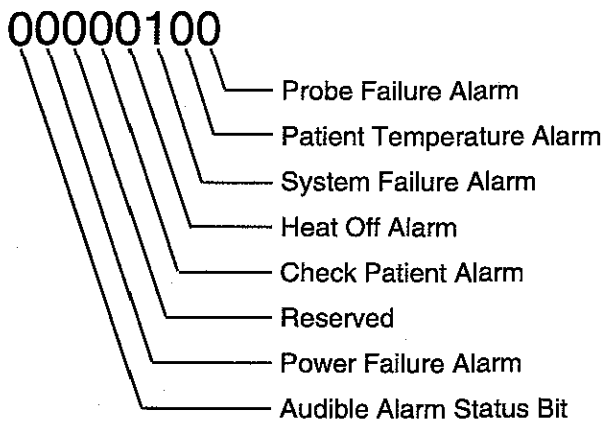
Percentage of nominal power defined as % of heater wattage.

pc.pc

In the servo control mode, this is the patient control temperature set with the ▲ and ▼ switches in degrees centigrade.

alrmleds

This series of bits represents the alarm LEDs. If an LED is illuminated, the corresponding bit is set to 1 (alarm active). If there is no alarm, the bit is set to 0. Checking the bits from right to left is the same as checking the alarm LEDs from top to bottom:



code

This is the error code that appears in the control temperature display during a system failure alarm (e.g. E014). If the system is operating normally (no system failure), zeroes replace the error code (e.g. E000).

ck

This is the two byte ASCII representation of the byte that when added to the sum of all the ASCII data bytes in the string equals zero. Note that all over flows are dropped and the sum of the data bytes DOES NOT INCLUDE the <stx>, checksum, <etx>, <cr>, or <lf> characters or the parity bit of each byte.

<cr>

Carriage return character.

<lf>

Line feed character.

<etx>

End of transmission character (ASCII 3) or CTRL B.

Nurse Call specifications

Contact ratings

Maximum resistive load: 4 VA
Maximum DC switching voltage: 100 Vdc
Maximum switching current: 0.25 A
Maximum carrying current: 0.50 A.

Connector

The Nurse Call contacts and the serial data output share the same female, nine pin, d-type connector (DB9F).

Pin 6:	Closed contact under normal conditions, i.e. power on, no alarm (recommended configuration)
Pin 1:	Common contact
Pin 9:	Open contact under normal conditions, power on, no alarm

These contacts are not powered. They only provide closure.

Appendix

Table A-1
Nurse Call signals

Warmer Status	Nurse Call Signal Pins 1&6	Pins 1&9
Normal	Closed	Open
Alarm	Open	Closed
Power switch off or power fails	Open	Closed
Nurse Call cable disconnected	Open	Open

WARNING: ⚠ **If you use the normally open Nurse call connection, a disconnected Nurse Call cable DOES NOT trigger a remote alarm.**

Note: Any interruption of warmer power (deliberately switching off the warmer , accidentally unplugging the power cord, etc.) triggers a Nurse Call alarm.

Installing wall mounted units

WARNING: ⚠ **Carefully follow these installation instructions. Failure to do so may result in serious injury to the operator or patient.**

The model 3050, 3100, and 3150 wall mounted warmers were designed for locations where permanent, infant radiant warmers attached directly to the room wall are desired. To adequately install these models, pre-planning at the architectural design phase is required.

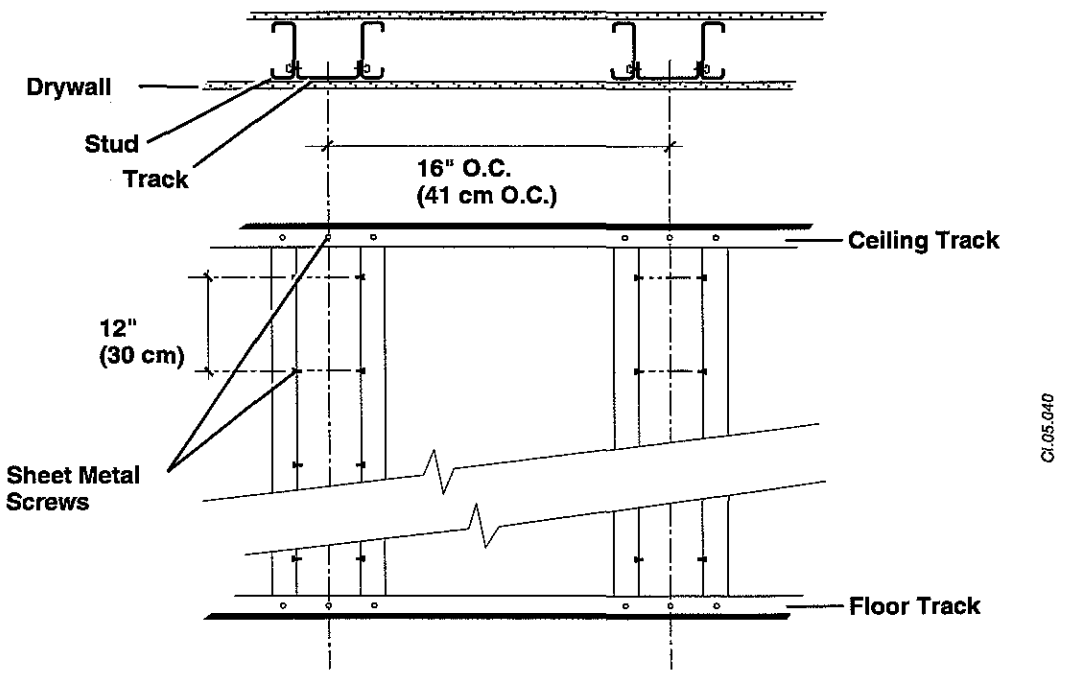


Figure A-1
Wall cross section

Appendix

The following instructions describe the manufacturer's recommended method of installation in new construction. Use only the Ohmeda hardware provided to mount the model 3050, 3100, and 3150. The installation should be approved by the appropriate State and Local authorities. Deviation from these recommendations or attempts to retrofit existing construction should only be undertaken by professionals experienced in structural design, who in turn are wholly responsible for the structural integrity of the mounting method they devise.

Pre-Installation Preparation

A pattern of two (2) Extra Duty Drywall Studs (STE-20 gauge) and one (1) 4" x 1½" (10 x 4 cm) Drywall Track (16 gauge) at 16 inch (41 cm) centers form the basic "rough in" for installing each IWS 3050 unit. See Figure A-1. Verify that the studs and track are securely fastened together at 12 inch intervals and to both the floor and ceiling tracks with #10 sheet metal screws.

Warmer Installation

After the wall is finished and the room is completed you are ready to install the warmer.

The distance from the warmer heater head to the bassinet or bed mattress surface is critical for proper operation of the warmer. This distance must be 27 inches, ± 2 inches (69±5 cm). Before installing the model 3050 or 3100, you must determine the bed surface height that will be used (for your convenience, a bed height label is provided to attach to the wall to aid in visually aligning the bassinet/bed surface).

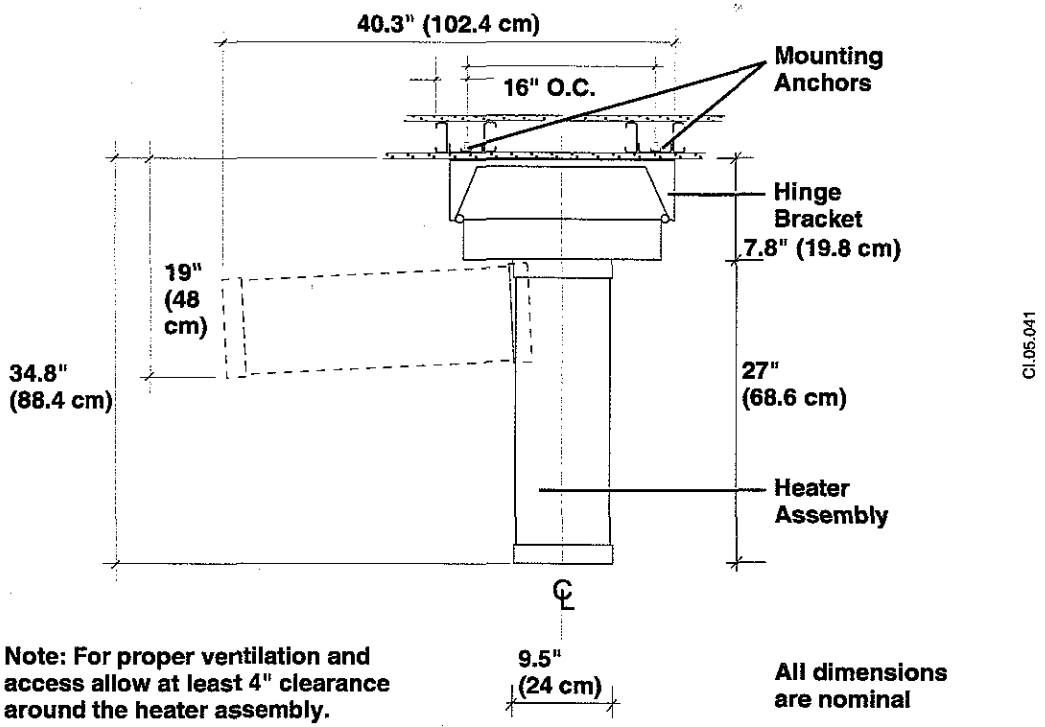


Figure A-2
Warmer mounitng overhead view

1. Locate the stud edges by pre-measurement or by using a stud finder. Find the center of the drywall track 3g inches (86 mm) over from the stud edge. See Figure A-2.

2. Remove the hinge bracket from the warmer by removing the (2) hinge pins (one on either side) that secure the bracket to the warmer heater head.

3. Utilizing a level, position the hinge bracket on the wall. The bottom edge of the heater mounting bracket on the model 3050 and 3100 must be 27 ± 2 inches (69±5 cm), inches from the bed surface of the mattress that will be used. See Figure A-3. The model 3150 integral bed warmer already comes with 27 ± 2 inch (69±5 cm) bed-to-heater spacing.

4. Use the hinge bracket as a template to mark the mounting holes on the wall.

5. Use a 3/4 inch (19 mm) diameter metal cutting hole saw to drill (4) holes through the dry wall and through metal drywall tracks behind the wall.

WARNING:

⚠ **When installing wall mounted units, to achieve adequate structural strength all four holes must engage tracks. Should the hole saw miss a track do not proceed. Consult the project engineer for further direction.**

⚠ **Enclosing the heater assembly inside a cabinet may prevent proper ventilation and may create a fire hazard. If the heater is enclosed in a cabinet, it must be equipped with a power cut-off device that prevents operation while the cabinet is closed.**

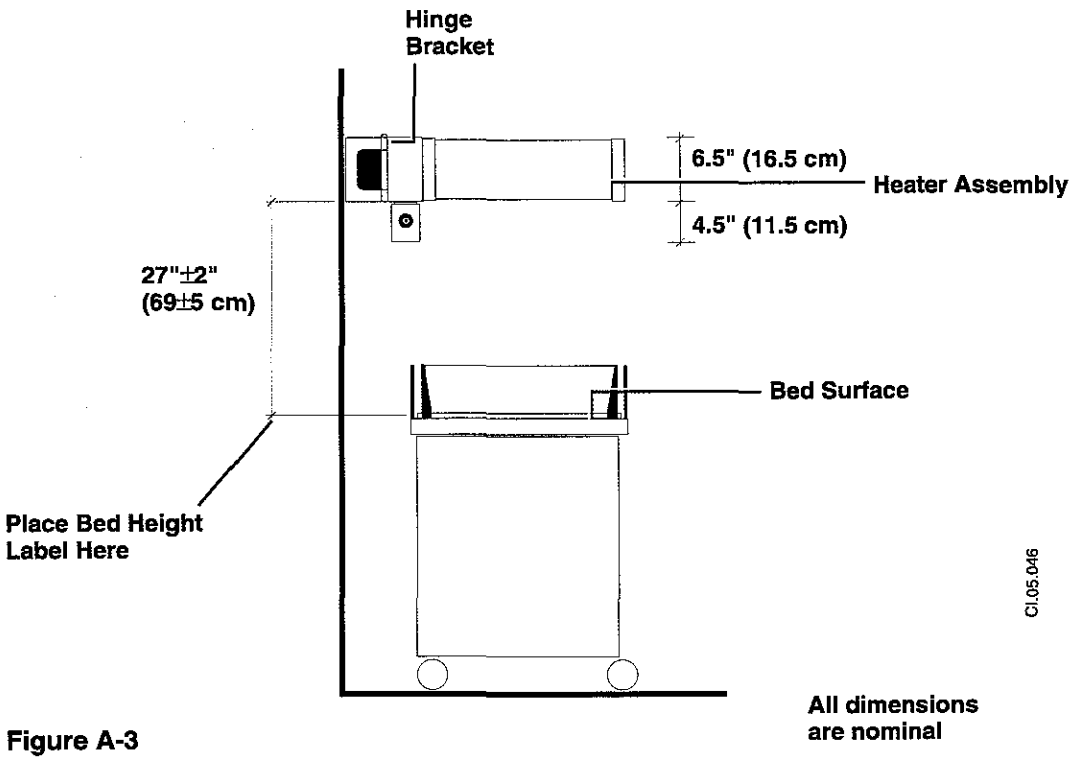


Figure A-3
Heater to bed distance

6. Perform steps A through C to secure the (4) Toggler® anchor bolts in the wall. See Figure A-4.
   A. Hold the metal channel flat alongside the plastic straps and slide the channel through the hole in the wall and track.
   B. With one hand, hold the ring so the metal channel rests flush behind the wall. Slide the plastic cap along straps with the other hand until the flange of the cap is flush with the wall.
   C. Place your thumb between the straps, and push from side to side, snapping off the straps level with the flange of the cap.

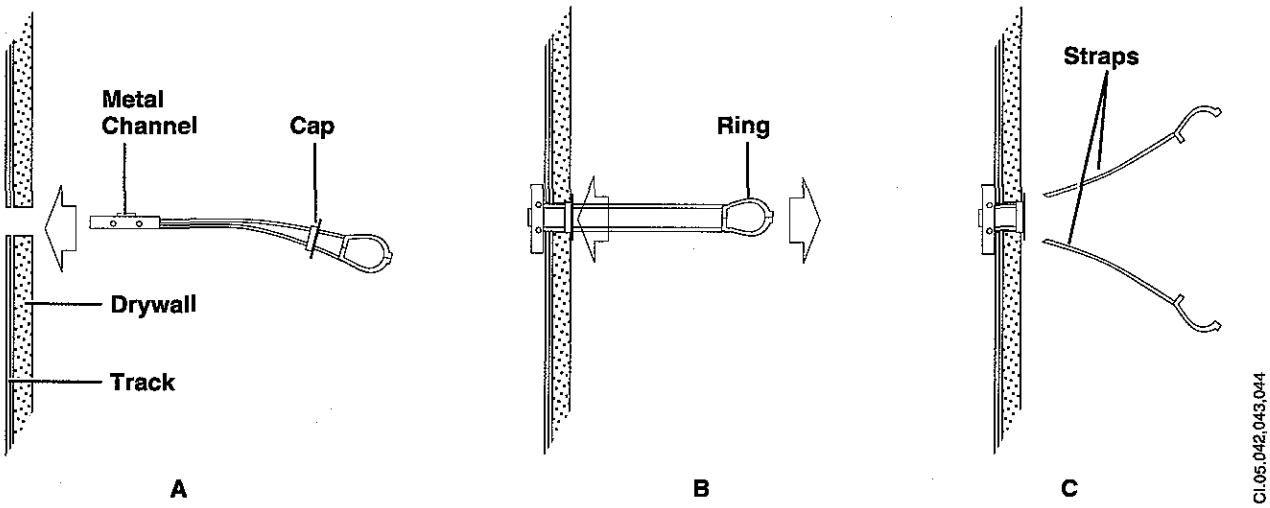


Figure A-4
Toggler® anchor installation

7. Mount the hinge bracket on the wall with the flat washers, split ring washers and screws provided. See Figure A-5. Tighten the screws with approximately 80 lb/in of torque.

   Note: The screws provided (3/8 - 16 UNC, 2 a" long) are for installations in 1/2 inch or 5/8 inch thick drywall. For applications involving double thicknesses of drywall, longer screws will be required. To properly mount the warmer, at least 2 a screw threads must be engaged.

   Verify that the bracket is level and the distance to the bed surface is 27 inches, ± 2 inches (69±5 cm).

WARNING: ⚠ **Keep hands clear of the hinge area when installing a wall mounted heater assembly. A pinch hazard exists.**

⚠ **Heater assembly weighs approximately 30 lbs (14 kg). Proper installation may require two people. Due to the weight of the 3100 and 3150 units, approximately 75 lbs (34 kg), proper installation will require two people.**

8. Mount the warmer by inserting the back of the unit into the hinge bracket mounted on the wall, then securing it by tapping in the (2) hinge pins. Verify that the heater assembly is rigidly secured to the wall, is level, and is parallel to the floor.

9. For the model 3050, attach the "proper bed to heater spacing" label provided with the unit to the wall so that the bottom line of the label is 29 inches (74 cm) from the lower edge of the hinge bracket.

WARNING: ⚠ **Bed-to-heater spacing which differs from the specified 27± 2 inches (69±5 cm) will result in incorrect operation and may affect the patient's condition. For your convenience, a label has been provided for attachment to the wall to identify the the proper bed-to-heater spacing.**

For the model 3100 or 3150 perform steps 10 through 14. For the model 3050 skip to step 15.

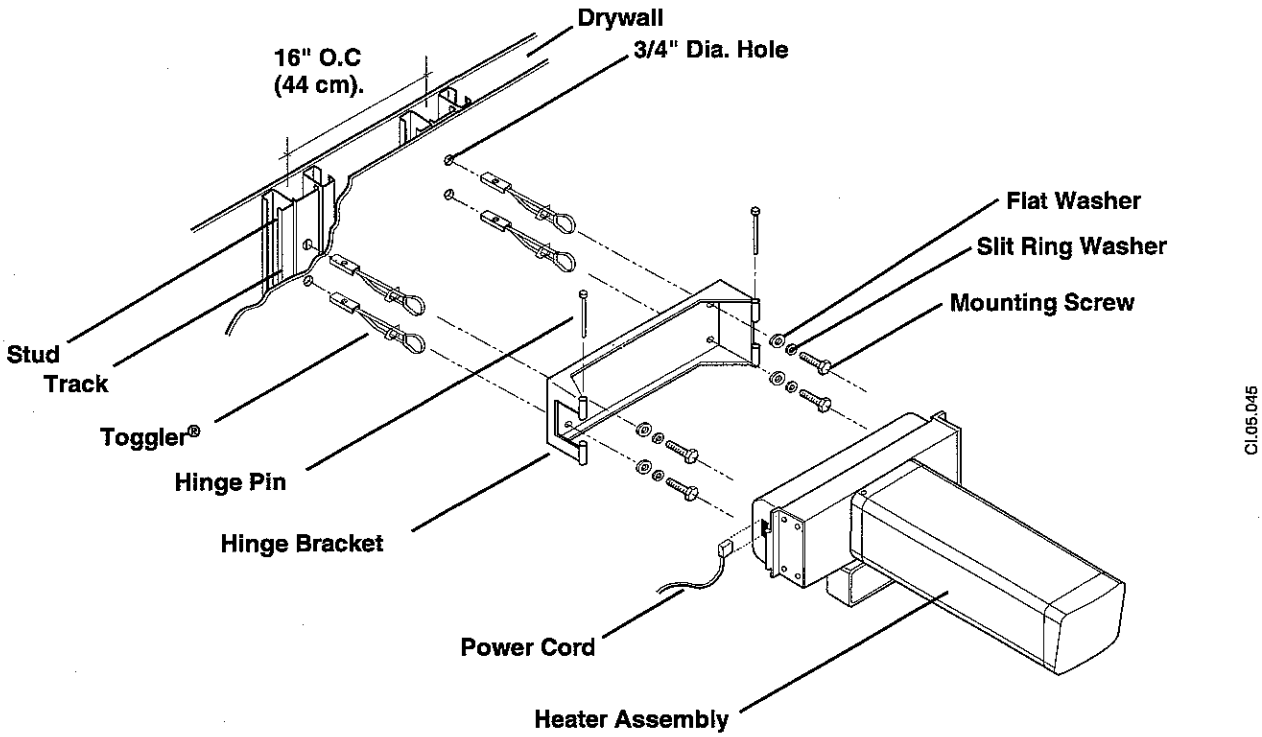


Figure A-5
Mounting the warmer

10. Position the lower mounting bracket on the wall. Use the lower hinge bracket as a template to mark the mounting holes on the wall for the lower bracket.

11. Remove the warmer from the wall by tapping out the (2) hinge pins from the upper bracket.

12. Remove the lower hinge bracket from the warmer by removing the (2) hinge pins (one on either side) that secure the bracket to the warmer.

13. Repeat steps 5, 6 and 7 to properly install the lower mounting bracket.

14. Mount the warmer by inserting the back of the unit into the upper hinge bracket mounted on the wall, then securing by tapping in the (2) hinge pins. Secure the warmer to the lower mounting bracket by tapping in the (2) hinge pins. Verify that the heater assembly and side rails are rigidly secured to the wall and that the heater is level and is parallel to the floor.

15. Refer to the Operation & Maintenance Manual for checkout procedures.

WARNING: ⚠ **Perform Checkout Procedures before placing the unit in operation.**

Notes

Notes

Notes

Warranty

This Product is sold by Ohmeda under the warranties set forth in the following paragraphs. Such warranties are extended only with respect to the purchase of this Product directly from Ohmeda or Ohmeda's Authorized Dealers as new merchandise and are extended to the first Buyer thereof, other than for purpose of resale.

For a period of twelve (12) months from the date of original delivery to Buyer or to Buyer's order, but in no event for a period of more than two years from the date of original delivery by Ohmeda to an Ohmeda Authorized Dealer, this Product, other than its expendable parts, is warranted to be free from functional defects in materials and workmanship and to conform to the description of the Product contained in this operation manual and accompanying labels and/ or inserts, provided that the same is properly operated under conditions of normal use, that regular periodic maintenance and service is performed and that replacements and repairs are made in accordance with the instructions provided. This same warranty is made for a period of thirty (30) days with respect to the expendable parts, including but not limited to the reusable Ohio skin temperature probe. The foregoing warranties shall not apply if the Product has been repaired other than by Ohmeda or in accordance with written instructions provided by Ohmeda, or altered by anyone other than Ohmeda, or if the Product has been subject to abuse, misuse, negligence, or accident.

Ohmeda's sole and exclusive obligation and Buyer's sole and exclusive remedy under the above warranties is limited to repairing or replacing, free of charge, at Ohmeda's option, a Product, which is telephonically reported to the nearest Ohmeda Regional Service Office and which, if so advised by Ohmeda, is thereafter returned with a statement of the observed deficiency, not later than seven (7) days after the expiration date of the applicable warranty, to the designated Ohmeda Regional Service Office during normal business hours, transportation charges prepaid, and which, upon Ohmeda's examination, is found not to conform with the above warranties. Ohmeda *shall not be otherwise liable for any damages including but not limited to incidental damages, consequential damages, or special damages.*

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